PATENT ABSTRACTS OF JAPAN

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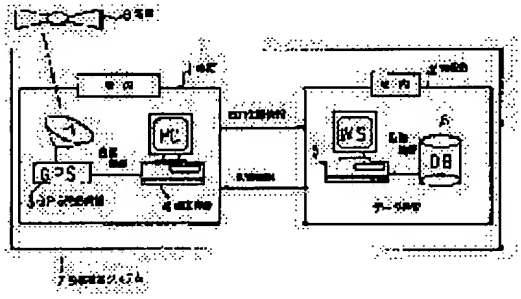
(54) FACILITY-SPECIFYING SYSTEM AND METHOD FOR SPECIFYING FACILITY BY USING THE SYSTEM

(57)Abstract:
PROBLEM TO BE SOLVED: To obtain information related to a required facility simply in a short time by accessing with the use of a terminal device from has one's new address.
SOLUTION: A GPS receiver device 3 specifies positional information of a vehicle 1 with using navigation waves from an artificial satellite 8, and sends the information to a portable terminal device 4. In consequence, the terminal device 4 transmits the positional information to an information station 2 via, e.g. a modem, a telephone line or the like. When the information station 2 receives the positional information, a main computer 5 searches from a database which is a memory device 6 facility information, etc., corresponding to the positional information and transmits the information, etc., to the vehicle 1 via the modem, telephone line or the like. Accordingly, the facility information corresponding to the present position can be obtained quickly at the side of the vehicle 1.



LEGAL STATUS

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CLAIMS

[Claim(s)]
[Claim 1] The GPS receiving set which measures the current position of a mobile using the navigation electric wave of a satellite, The terminal unit which displays the facility information sent from the Information Board side concerned while transmitting the above-mentioned positional information to the Information Board side automatically, The mobile which ****, and the storage which memorized beforehand the facility information corresponding to the above-mentioned positional information, The facility specification system characterized by providing the Information Board which has the main computer which transmits the facility information concerned to the above-mentioned mobile while retrieving the facility information corresponding to the positional information transmitted from the above-mentioned terminal unit from the above-mentioned storage.
[Claim 2] It is the facility specification approach made by the Information Board which has the mobile which has a GPS receiving set and a terminal unit, and the main computer and storage. By the above-mentioned car, the current position of a mobile is measured using the navigation electric wave of a satellite with a GPS receiving set. The positional information is automatically transmitted to the Information Board side. In the above-mentioned Information Board the main computer The facility specification approach characterized by displaying the facility information which retrieved the facility information corresponding to the above-mentioned positional information from the predetermined facility information currently held beforehand at the above-mentioned storage, transmitted the facility information concerned to the mobile side, and has been sent from the above-mentioned Information Board in the above-mentioned mobile on the display screen of personal digital assistant equipment.

[Translation done.]

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the facility specification system for performing simply check and maintenance services of a facility, such as a telegraph pole and an electric wire, and the facility specification approach using it.

[0002]

[Description of the Prior Art] When check and maintenance services of a facility, such as the former, for example, an electric wire, and a telegraph pole, were performed, it had to work having carried the map of the paper in which the facility etc. was described and checking a facility with the map. Therefore, the activity concerned was very complicated.

[0003] In order that this activity may consider as a simple thing, computer mapping of taking out and displaying the map data of the area of choice by each terminal unit side is widely used by the end of today by specifying each line which is a graphic element on drawings, such as a map, with digital graphic data (line drawing data), building a map database, and accessing this map database in a host side from each terminal unit.

[0004] The geographical feature data in which a road boundary etc. is shown, and the facility data in which a manhole, a duct, etc. are shown are stored in such a map database. Furthermore, the name and positional information currently installed are included in facility data. And if a drawing number etc. is inputted from a terminal unit, the geographical feature data and facility data of this drawing number will be read from a map database, will be sent to a terminal unit, and predetermined processing will be performed.

[0005] On the other hand, by receiving the electric wave from a satellite, the distance to a migration body and satellites, such as a car, is measured, and the various techniques about GPS (Global Positioning System) which computes the location of the migration body concerned are indicated by the end of today.

[0006] For example, in JP,6-130144,A, while detecting a car location by GPS, the technique characterized by providing a driver with the map data near [concerned] a location by CD-ROM is indicated.

[0007] And in JP,62-298785,A, the technique of pinpointing the center position of the every place region corresponding to the local identification number which gets to know an initial valve position by GPS of a car, inputs an initial valve position from a migration transmitter, and memory builds in is indicated.

[0008] Furthermore, in JP,5-79849,A, the location of a migration vehicle is got to know by GPS (LAT LONG), in one side, the location processing section processes the data of an earth magnetism sensor, a gyroscope, and a speed sensor, bearing distance is found, and the technique characterized by grasping the location of a migration vehicle from these both is indicated.

[0009]

[Problem(s) to be Solved by the Invention] However, in "computer mapping" mentioned above, since all of the corresponding geographical feature data and the facility data of a drawing number were sent to the terminal unit side when the drawing number etc. was specified with the terminal unit, the transmission time became long and there was a problem that access took long duration. Furthermore, it was complicated in order to be accompanied by the processing which inputs a suitable drawing number etc. with a terminal unit. Moreover, the unnecessary facility data in the drawing will be sent, and the activity was done the rather complicated thing.

[0010] On the other hand, with the technique about Above GPS, the chief aim is set to pinpoint the location of a car etc. and the means for obtaining quickly and exactly the facility data applicable to the positional information concerned etc. was not shown at all.

[0011] This invention was made in view of the above-mentioned problem, and the place made into the purpose is simply by accessing using a terminal unit from a migration place to offer the facility specification approach using the facility specification system and it which can acquire the information concerning the facility considered as a request for a short time.

[0012]

[Means for Solving the Problem] In order to attain the above-mentioned purpose, the facility specification system of this invention The GPS receiving set which measures the current position of a mobile using the navigation electric wave of a satellite, The mobile which has the terminal unit which displays the facility information sent from the Information Board side concerned while transmitting the above-mentioned positional information to the Information Board side automatically, It is characterized by providing the Information Board which has the storage which memorized beforehand the facility information corresponding to the above-mentioned positional information, and the main computer which transmits the facility information concerned to the above-mentioned mobile while retrieving the facility information corresponding to the positional information transmitted from the

above-mentioned terminal unit from the above-mentioned storage.

[0013] An operation of this facility specification system, i.e., the facility specification approach of this invention It is the facility specification approach made by the Information Board which has the mobile which has a GPS receiving set and a terminal unit, and the main computer and storage. In the above-mentioned mobile, the current position of a mobile is measured using the navigation electric wave of a satellite with a GPS receiving set. The positional information is automatically transmitted to the Information Board side. In the above-mentioned Information Board the main computer Facility ****** corresponding to the above-mentioned positional information is searched from the predetermined facility information currently held beforehand at the above-mentioned storage, the facility information concerned is transmitted to a mobile side, and the facility information sent from the above-mentioned Information Board in the above-mentioned mobile is displayed on the display screen of personal digital assistant equipment.

[0014]

[Embodiment of the Invention] Hereafter, the gestalt of operation of this invention is explained with reference to a drawing. Drawing 1 is the block diagram showing the facility specification structure of a system of this invention. As shown in this drawing, in a car 1, it is GPS (Grobal Positioning System). A receiving set 3 and personal digital assistant equipment 4 are arranged at least.

[0015] The above-mentioned GPS receiving set 3 positions the current position of a car 1 using the navigation electric wave from a satellite 8, and according to the GPS receiving set 3 concerned, it can obtain the LAT LONG of a car 1. About this GPS receiving set 3, since a well-known technique is already employable, detailed explanation is omitted here. As the above-mentioned personal digital assistant equipment 4, a common personal computer is employable.

[0016] On the other hand, the main computer 3 and storage 6 are arranged in the Information Board 2 at least. The above-mentioned store 6 is a database with facility information, such as a telegraph pole and an electric wire, beforehand, and can output now the information which corresponds immediately with the directions from the main computer 3.

[0017] In such a configuration, if the above-mentioned GPS receiving set 3 specifies the positional information of a car 1 using the navigation electric wave from a satellite 8 and transmits the positional information concerned to the gestalt terminal unit 4, personal digital assistant equipment 4 will transmit the positional information concerned to the Information Board 2 side through a modem and the telephone line.

[0018] On the other hand, in the Information Board 2, if the positional information concerned is received, the main computer 5 will retrieve the facility information corresponding to the positional information concerned etc. from a 6 casks of stores database, and a modem etc. will transmit the facility information concerned etc. to the above-mentioned car 1 side through the telephone line. In this way, in a car 1 side, the facility information according to the present location can be acquired quickly. The situation of presenting of this facility information is as being shown in drawing 3 .

[0019] Hereafter, actuation of this facility specification system is explained with reference to the flow chart of drawing 2 . In addition, this actuation corresponds to the facility specification approach of this invention. The GPS receiving set 3 which is a device for current position income is carried in the car 1 which performs Facili1ty Inspection and construction of a telegraph pole, a manhole, etc., and it moves to the destination with a facility of a telegraph pole, a manhole, etc. where the car concerned performs check and repair work (step S1).

[0020] A car 1 measures the location in the point with the GPS receiving set 3. The value calculated at this time is LAT LONG (step S2). And the positional information of this called-for facility is transmitted to the Information Board 2 side (step S3). In addition, signs that the car 1 actually moved near the outdoor facility 11, acquired positional information using the navigation electric wave of a satellite 8, and positional information is transmitted to the Information Board 2 using PHS (Personal Handyphone System), a modem, etc. are as being shown in drawing 4 .

[0021] Collating with the positional information and the above-mentioned information which are held at storage 6 is performed, and a host computer 5 chooses the congruous things or what is the closest to the facility, and retrieves facility information in the Information Board 2. In addition, the store 6 in the Information Board 2 holds data, such as a name of a facility, and a location, (step S4).

[0022] In this way, the data searched with the Information Board 2 with the host computer 5 are transmitted to a car 1 (step S5). And by the car 1, information required for maintenance check construction of the sent facility name, for example, a description of work etc., is displayed with the display screen of personal digital assistant equipment 4 (step S6). The situation of this display is as being shown in drawing 3 , and the display 9, and the photograph and the image 10 about a telegraph pole are displayed on coincidence in this example.

[0023] By the above actuation, it makes it possible to specify a facility rightly. Furthermore, it becomes unnecessary to carry the drawing of paper in a site, and enables it to do the maintenance check activity of a facility of the purpose efficiently by asking for the present location using a GPS receiving set, and specifying a facility.

[0024] as explain above , by the facility specification system of this invention , and the facility specification approach using it , it can detect , the location , i.e. , the LONG LAT , near [at which the activity vehicle arrived by GPS carried in the activity vehicle] a site , this data and data which the head office save , such as a site name and a telegraph pole number , can be collate , and an on-site location can be pinpoint correctly in a short time . Therefore, since it becomes unnecessary to work by opening the drawing described on paper in the site like the conventional technique mentioned above, working efficiency improves.

[0025]

[Effect of the Invention] As explained in full detail above, according to this invention, the facility specification approach using the facility specification system and it which can acquire the information concerning the facility considered as a request can be easily

offered in a short time by accessing using a terminal unit from a migration place.

[Translation done.]

* NOTICES *

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TECHNICAL FIELD

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PRIOR ART

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EFFECT OF THE INVENTION

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TECHNICAL PROBLEM

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* NOTICES *

DESCRIPTION OF DRAWINGS

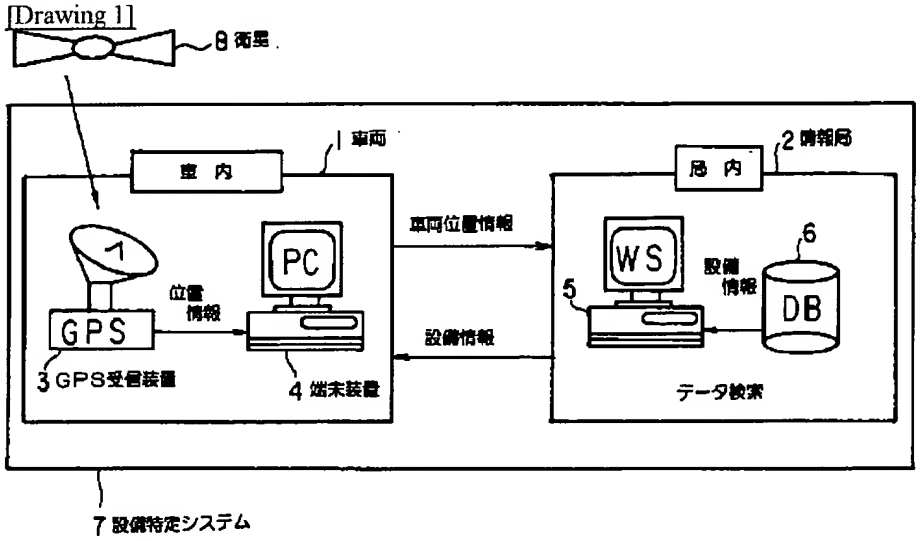
[Brief Description of the Drawings]
[Drawing 1] It is the block diagram showing the facility specification structure of a system of this invention.
[Drawing 2] It is the flow chart which shows the sequence of the facility specification approach of this invention.
[Drawing 3] It is drawing showing the example of a display displayed on the display screen of the gestalt terminal in a car.
[Drawing 4] It is drawing showing the situation of actuation by the facility specification system of this invention.
[Description of Notations]
1 [-- Personal digital assistant equipment, 5 / -- A host computer, 6 / -- Storage, 7 / -- A facility specification system, 8 / -- A satellite, 9 / -- The display screen, 10 / -- A photograph and the image section, 11 / -- An outdoor facility, 12 / -- PHS.] -- A car, 2 -- The Information Board, 3 -- A GPS receiving set, 4

[Translation done.]

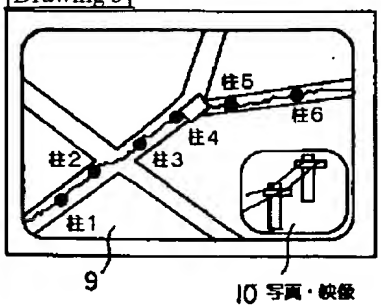
* NOTICES *

DRAWINGS

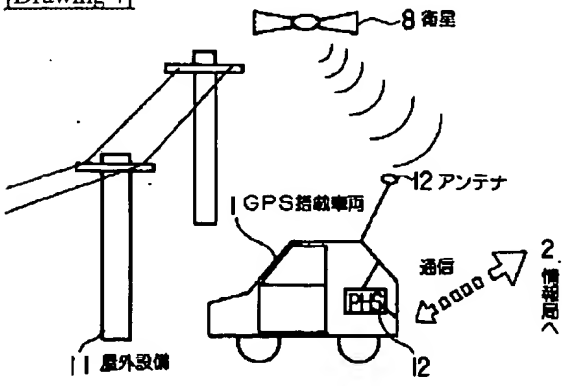
[Drawing 1]



[Drawing 3]

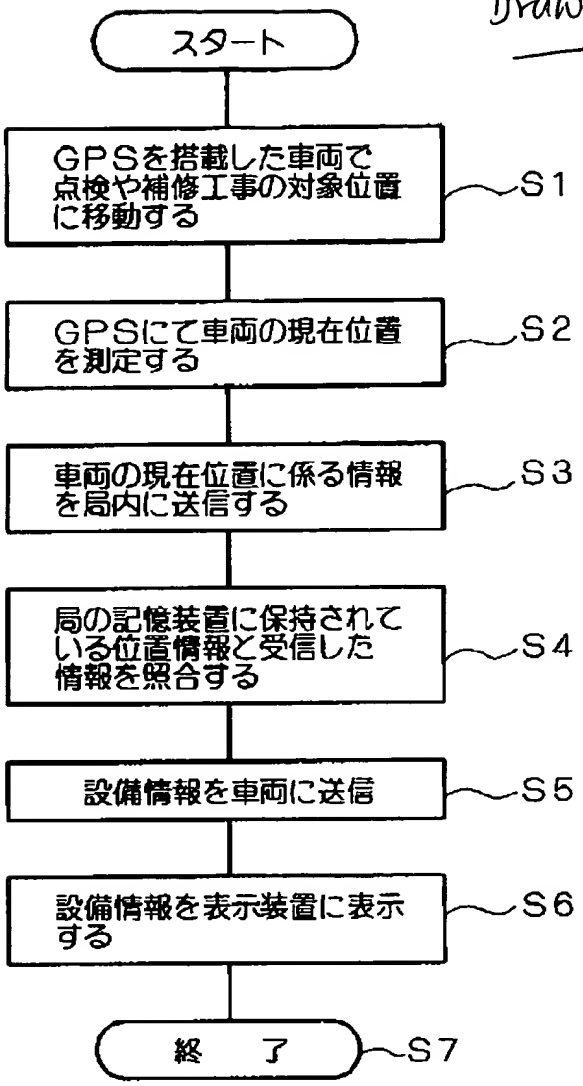


[Drawing 4]



[Drawing 2]

Drawing 2



[Translation done.]